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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/717,129	11/22/2000	Katsuhiko Suga	1344.1048/JDH	2847

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EXAMINER	
TRAN, DZUNG D	

ART UNIT	PAPER NUMBER
2633	3

DATE MAILED: 09/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/717,129	SUGA ET AL.	
	Examiner	Art Unit	
	Dzung D Tran	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11/22/20000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 November 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Specification

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergano U.S. patent no. 6,459,515 in view of Hendrix U.S. patent no.6,008,920.

Regarding claims 1 and 4, Bergano discloses a method and apparatus for multiplexing a plurality of optical signals having different wavelengths (figure 3), comprising:

first optical multiplexing means (figure 3, element 308) for multiplexing, among a plurality of optical signals that are input with directions of linear polarization of neighboring wavelengths being differed to each other and are successively given wavelength numbers depending upon the wavelengths, optical signals corresponding to odd wavelength numbers, while maintaining their polarization states (col. 4, lines 4-21);

second optical multiplexing means (figure 3, element 308) for multiplexing optical signals corresponding to even wavelength numbers among said plurality of optical signals, while maintaining their polarization states (col. 4, lines 4-21); and

third optical multiplexing means (figure 3, element 308).

Bergano differs from claims 1 and 4 of the present invention in that Bergano does not specific discloses the third optical multiplexing including:

a first filter for filtering the optical signals multiplexed by said first optical multiplexing means in accordance with fitter characteristics that include a transmission wavelength band with the wavelengths of odd numbers as centers, and have the band width of said transmission wavelength band which is narrower than the band width of transmission wavelength band of filter characteristics of said first optical multiplexing means;

a second filter for filtering the optical signals multiplexed by said second optical multiplexing means in accordance with filter characteristics that include a transmission wavelength band with the wavelengths of even numbers as centers, and have the band width of said transmission wavelength band which is narrower than the bandwidth of transmission wavelength band of filter characteristics of said second optical multiplexing means; and an output unit for multiplexing the optical signals output from said first input unit and the optical signals output from said second input unit to output the multiplexed signal light. Hendrix discloses a MUX/DEMUX that includes a wavelength selective filter (i.e. narrow bandpass filter) for filtering the optical signals multiplexed and outputting a narrower bandwidth than the bandwidth of transmission wavelength band of optical multiplexing (figure 6, col. 5 lines 1-44, col. 8, line 1 to col. 11, line 40). At the time of the invention was made, it would have been obvious to a person of ordinary skill in the art to include the wavelength selective filter of Hendrix in the system of Bergano.

One of ordinary skill in the art would have been motivated to do that in order to reduce cross talk between channels.

Regarding claim 2, Bergano further discloses a plurality of optical signals are input with directions of linear polarization of neighboring wavelengths being orthogonal to each other (col. 4, lines 36-40).

Regarding claim 3, Bergano further discloses the third optical multiplexing means is provided with a function for maintaining the polarization state (col. 4, lines 33-48).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Atlas U.S. patent no. 6,236,480. System and method for reducing raman cross talk in a DWDM transport system

b. Bergano et al. U.S. patent no. 6,134,033. Method and apparatus for improving spectral efficiency in WDM transmission system

c. Duck et al. U.S. patent no. 6,040,932. Method and circuit for demultiplexing an optical signal

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dzung Tran whose telephone number is (703) 305-0932.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, Jason Chan, can be reached on (703) 305-4729.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

JASON CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600